ACC.15
TCT@ACC-i2 | innovation in intervention

A414
JACC March 17, 2015
Volume 65, Issue 10S

Arrhythmias and Clinical EP

USE OF THE NEW CONTACT FORCE SENSING ABLATION CATHETER DRAMATICALLY REDUCES FLUOROSCOPY TIME DURING ATRIAL FIBRILLATION ABLATION PROCEDURES

Poster Contributions
Poster Hall B1
Sunday, March 15, 2015, 3:45 p.m.-4:30 p.m.

Session Title: Ablation for Atrial Fibrillation and It's Many Faces
Abstract Category: 4. Arrhythmias and Clinical EP: AF/SVT
Presentation Number: 1219-239

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Background: Catheter ablation of atrial fibrillation (AF) is an effective treatment for patients with symptomatic AF. Recently a new ablation catheter providing real-time contact force (CF) has been approved for use. The real-world impact of this catheter is not known.

Methods: A nested case-control study was performed comparing radiofrequency ablation of AF using the irrigated CF-sensing ThermoCool SmartTouch catheter versus open-irrigated ThermoCool SF catheter (Biosense Webster, Inc., Diamond Bar, California). Standard ablation techniques were used with pulmonary vein isolation (PVI) in all patients and additional focal and linear ablation as necessary for persistent AF. Demographic and procedure data including procedure, fluoroscopy, and left atrial times and total ablation lesions were obtained. Student t-test was used to compare data between groups.

Results: Thirty consecutive adult patients were included with 15 patients in each group. All patients underwent PVI. Nine patients underwent additional focal or linear ablation in the CF group, compared to 7 patients in the SF group. Mean age was similar between two groups (60 ± 10 in CF vs 61 ± 5 yrs in SF, p=NS). All patients had successful PVI with entrance and exit block that persisted on isoproterenol and through an appropriate waiting period. Mean fluoroscopy time was significantly lower in the CF group (19.4 ± 8 vs 40.7 ± 8 min, p<0.0001). Left atrial time was significantly lower in the CF group (151.7 ± 44 vs 185.7 ± 35 min, p=0.01). There were no significant differences in procedure time (204 ± 37 vs 207 ± 36 min) and ablation time (121 ± 32 vs 122 ± 37 min) between CF and SF groups. When AF patients who only underwent PVI were compared, fluoroscopy time was significantly lower in the CF group (18 ± 9 vs 37.8 ± 5 min, p<0.0001) as was left atrial time (141.4 ± 39 vs 171.8 ± 30 min, p=0.04). Fluoroscopy time was also significantly lower in the CF subgroup with additional focal or linear ablation (20.9 ± 7 vs 44.9 ± 10 min, p<0.001).

Conclusion: Use of CF-sensing catheter significantly reduced fluoroscopy and left atrial times during AF ablation with similar acute efficacy. Long term follow-up data will be needed to assess the efficacy of CF use during AF ablation.